A.5.3 Mission Concepts for Ultra Long Duration Ballooning (ULDB)

1. Scope of Program

This program supports the development of new mission concepts for Ultra Long Duration Balloon (ULDB) instruments to be flown on the NASA ULDB platform after year 2002. Recent advances in composite super pressure balloon materials have enabled NASA to begin development of the ULDB program as an inexpensive alternative to place payloads into a near-space environment. A ULDB demonstration platform is currently being developed at the NASA Wallops Flight Facility (WFF) for a test flight in 2000. It is expected to be capable of supporting up to ~1 ton of scientific payload on a 16-28 million cubic foot super pressure balloon for 100 days (~5 circumnavigations of the globe in either the northern or southern hemisphere).

This program is opened to all space science disciplines. NASA expects to select up to approximately five instrument/mission concepts at ~$200K per concept for one to two year studies under this NRA. A formal report is required at the end of the study. NASA reserves the right to select one or more of the concepts at the end of the study for further definition and/or flight development. The payloads could be either new or conversions of existing payloads. In either case, the PI will be required to work closely with the WFF/ULDB project to ensure total compatibility between the instrument/mission and the balloncraft vehicle. The concept study must have the potential to lead to a fully integrated "sciencecraft" concept that is both technically sound and cost effective. All proposed investigations should include a detailed schedule, and a credible cost and management plan leading to a post-2002 launch.

2. Programmatic Considerations

Owing to the greater degree of complexity of the proposals expected for this ULDB mission concept program, the *Science/Technical/Management Section* of the proposals may be 20 pages long instead of the default 15 pages specified in Section C.5.1 of Appendix C.

The schedules for submission of the Notice of Intent and proposal are given in Table 1 of the cover letter of this NRA. The World Wide Web site for submitting both the NOI and the *Cover Page/Proposal Summary* (see Appendix C.5.3) is <http://props.oss.hq.nasa.gov>; proposers without access to the Web or who experience difficulty in using this site may contact Ms. Debra Tripp (E-mail: deb.tripp@hq.nasa.gov) for assistance.

Hard copies of the proposals are to be delivered to:

ROSS-98 NASA Research Announcement
Mission Concepts for Ultra Long Duration Ballooning
Jorge Scientific Corporation
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400 Virginia Avenue, SW
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Question concerning this program element should be addressed to the Discipline Scientist:

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